

## **Waiting is not a solution: Utilities prepare for smart metering on enterprising, procedural and IT level**

**According to the legislature conventional electricity meters shall be replaced by smart meters by 2020. Thereby consumption data is transmitted to the utility company via a communication network. The reading on site is not necessary, the utility is able to consider rate changes faster and create invoices based on the actual consumption. On the one hand that sounds like time and cost savings for the utility company, on the other hand it is a difficult venture. Although the legislature provides the framework for the implementation of smart metering systems, it is up to the utility to deal with the organization of individual processes and the costs of smart metering. One should start with the planning of a smart metering strategy in time, otherwise it will be hard to withstand the tough competition.**

The EU internal market directive 2009/72/EG plans that by 2020 80 percent of the meters are smart meters. However, smart metering is far more than the simple replacement of electricity meters. Rather, it is an investment in the future that gradually allows a smart energy mix. It is not sufficient to narrow down this historical task to the aspects of CO2 reduction or renewal of the networks. The increasing energy consumption of the population and the dependence on a stable energy supply, accompanied by the dependence on a few energy sources, are the motivation of the legislature for implementing smart metering systems.

The current situation shows how different the countries in Europe deal with smart metering. The national legislation and the need for an immediate and current consumption accounting influence the countries in implementing smart metering. In this context Sweden and Italy have top positions. The Scandinavians use smart meters mainly for monthly consumption accounting and for optimizing the transparency in the consumption behavior. In Italy smart meters are used primarily to cut off electricity from a distance if payers are tardy. Both countries have established a basis for implementing the smart grid and could gain experience in using smart meters.

Major utility companies start their own smart meter pilot projects to prepare for the future – E.ON strives towards 1.8 million installed meters all over Europe. In Spain alone, further 725.000 meters shall be installed this year. In Denmark Dong Energy Sales and Distribution A/S have stated the aim of 1 million meters for a roll-out from 2016 to 2019.

### **New market for measuring point operation**

In Germany, in the light of the expected costs, possible roll-out plans will be guided by the requirements of the Federal Office for Security in Information Technology. In its recent study the German Energy Agency (Dena) assumes that the cost portion of the utility company will be more than 50 percent, solely for the operation of the infrastructure to be installed in Germany. This depends on the chosen roll-out scenario. The requirements of the Federal Office for Security in Information Technology are addressed to the newly developed role of the gateway administrator who undertakes the measuring point operation. The aim is to increase the security in the use of smart metering systems. Such measures were previously reserved for the utility companies.

Thus an adaptation of the IDEX processes in the market communication is necessary. In the past the utility industry criticized the requirements that are defined by the legislature. These requirements concern security, consistent technical interfaces and the process structuring of the market communication. Thus there is the project „MessSystem 2020“ (measuring system 2020) of the panel network technology/network operation in the Association of Electrical Engineering, Electronics and Information Technology. Here standardized interfaces for the market communication via the gateways are developed.

### **The legislation is not completed**

The problem for the utility companies: The legislation for the implementation of smart metering is far from complete. In addition, the companies have to deal with new issues such as data security and data protection. The technical guideline BSI TR 3109 specifies the data security and protection of smart metering systems, but the corresponding measuring system regulation (MessSysV) currently exists only as a first draft. Also the planned roll-out regulation and further ordinances for variable rates, data protection and load management take long. The utility companies head to a “moving target”, a target that is only vaguely known. Although many things are in progress, one thing is certain: Waiting is not a solution.

The utility industry must face the challenges of smart metering on enterprising, procedural and IT level in order to avoid unnecessary costs when implementing smart metering systems. In addition, the market positioning of the energy provider will change by smart metering. Regarding the role of the gateway administrator the providers have to face a make-or-buy decision. Do you want to offer the services for smart metering by yourself, do you buy them or do you cooperate with external third-party suppliers? In addition, decisions for a

smart meter technology must be made and the staff has to be prepared for the roll-out. Thus the business model must be adapted in the context of a transformation management.

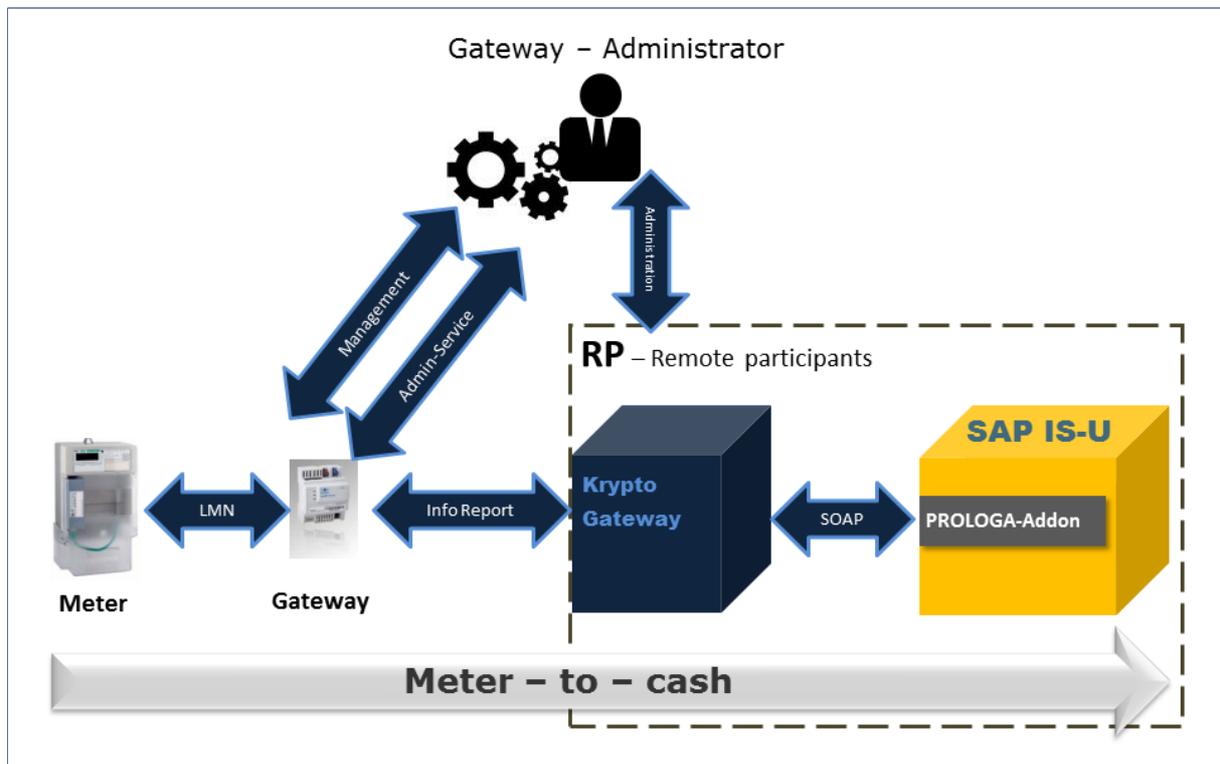


Figure 1: First steps Smart Metering Germany

## Permanently reduce costs

The utilities have to identify and adapt those processes that will be affected by smart metering. Generally, there will be a reduction of manual processes and a corresponding integration of automated work processes. Since a gradual change takes place here, the utility company must also consider the coexistence of old and new processes. Usually this does not work without the involvement of external partners. This especially applies to the definition of a new IT infrastructure that considers smart metering and in which new technologies for data exchange will be integrated. Thereby enormous amounts of data will emerge which in turn must be managed efficiently.

These are tremendous tasks that require a structured approach. At present many utilities shy away from these challenges in reference to the costs and the vague legal framework. And yet utilities can already draw on self-checks for smart meter processes that are in line with the Federal Office for Security in Information Technology. The PROLOGA GmbH, for example, provides the connection of SAP IS-U systems to the technical infrastructure of a smart metering system that is under construction according to German requirements.

“Before the upcoming market communication regarding the gateway administrator, we rely on our expertise in implementing meter-to-cash processes.”, Alexander Silkeit, Solution Manager at PROLOGA, explains.

With efficient, standardized and process-oriented meter reading processes (move in/move out reading, RLM-procedure and development of a database for analyzing the consumer behavior) a lasting contribution to the transparency of consumer behavior and to the reduction of operating costs can be made. In this way first experiences with the smart meter technology can be acquired before the integration of the gateway administrator connection. Thus there is time for customers to gradually adapt their system environment to future conditions. In the utilities practical knowledge is built up early. In this way, the utility companies optimally prepare for smart meter and the smart grid of the future.

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